



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2013-0143; Directorate Identifier 2013-NE-06-AD]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce plc Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain Rolls-Royce plc (RR) RB211-524B-02; -524B2-19; -524B3-02; -524B4-02; -524C2-19; -524D4-19; -524D4-B-19; -524D4-39; -535C-37; -535E4-37; -535E4-B-37, and -535E4-B-75 turbofan engines, and all RB211-524G2-19; -524G3-19; -524H2-19; and -524H-36 turbofan engines. This proposed AD was prompted by the discovery of a cracked and distorted front combustion liner (FCL) metering panel, which was made from the wrong material. This proposed AD would require a one-time inspection of the FCL metering panel to determine if it was made from N75 material and replacing it with one made from C263 material if it was made from N75 material. We are proposing this AD to prevent hot gas burning through the engine casing, which could result in an under-cowl fire and damage to the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- Fax: 202-493-2251.

For service information identified in this proposed AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, England, DE248BJ; phone: 011-44-1332-242424; fax: 011-44-1332-249936 or e-mail from http://www.rolls-royce.com/contact/civil_team.jsp, or download the publication from <https://www.aeromanager.com>. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (phone: 800-647-5527) is the same as the Mail address

provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Robert Green, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: robert.green@faa.gov; phone: 781-238-7754; fax: 781-238-7199.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2013-0143; Directorate Identifier 2013-NE-06-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this proposed AD. Using the search function of the Web site, anyone can find and read the comments in any of our dockets, including, if provided, the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78).

Discussion

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued mandatory continuing airworthiness information (MCAI) AD 2012-0215R1, dated January 4, 2013, to correct an unsafe condition for the specified products. The MCAI states:

During investigation of a starting problem with an RB211-535E4-B-37 engine, the Fuel Spray Nozzles (FSNs) appeared misaligned and the engine was removed. Further investigation found that the FSNs were correctly positioned but that the Front Combustion Liner (FCL) metering panel (reference Engine Illustrated Parts Catalogue (EIPC) section 72-41-13, Figure/Item 02-324) was cracked and distorted. Laboratory investigation revealed that the FCL metering panel was made of N75 material rather than the specified C263 material.

Rolls-Royce (RR) issued SB RB.211-72-7221 in 1984, to address the issue of cracking of FCL metering panels manufactured in N75 material. SB RB.211-72-7221 replaces the FCL metering panel manufactured in N75 material with one manufactured in C263 material. The FCL metering panel in so-called Phase 2 combustors of the RB211-524G/H and RB211-535C/E4/E4-B series engines was specified in C263 material from engine type at entry into service.

Based on these findings, it was determined that installation of N75 material FCL metering panels on an engine where C263 was the intended material, may result in metering panel cracking and distortion.

This condition, if not prevented, could result in hot gas burning through the engine casing, which could result in an under-cowl fire and damage to the airplane.

You may obtain further information by examining the MCAI in the AD docket.

Relevant Service Information

RR Alert Non-Modification Service Bulletin (NMSB) No. RB.211-72-AG046, Revision 3, dated December 6, 2012, and Alert NMSB No. RB.211-72-AG183, Revision 3, dated December 6, 2012.

FAA's Determination and Requirements of This Proposed AD

This product has been approved by the aviation authority of the United Kingdom, and is approved for operation in the United States. Pursuant to our bilateral agreement with the European Community, EASA has notified us of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all information provided by EASA and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design. This proposed AD would require a one-time inspection of the FCL metering panel to determine if it was made from N75 material, and replacing it with one made from C263 material if it was made from N75 material.

Costs of Compliance

We estimate that this proposed AD would affect 315 RR turbofan engines installed on airplanes of U.S. registry. We also estimate that it would take about 11 hours per engine to inspect the FCL metering panel on-wing. The average labor rate is \$85 per hour. Required parts cost about \$108,887 per engine. We anticipate that 12 FCL metering panels will fail inspection. Based on these figures, we estimate the cost of the proposed AD on U.S. operators to be \$1,601,169.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new AD:

Rolls-Royce plc: Docket No. FAA-2013-0143; Directorate Identifier 2013-NE-06-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected Airworthiness Directives (ADs)

None.

(c) Applicability

This AD applies to:

(1) All Rolls-Royce plc (RR) RB211-524G2-19; -524G3-19; -524H2-19; and -524H-36 turbofan engines.

(2) RR RB211-524B-02; -524B2-19; -524B3-02; -524B4-02; -524C2-19; -524D4-19; -524D4-B-19; and -524D4-39 that have incorporated RR Service Bulletin (SB) No. RB.211-72-7221, dated December 7, 1984.

(3) All RR RB211-535C-37; -535E4-37; -535E4-B-37, and -535E4-B-75 turbofan engines, except those engines that have incorporated RR SB No. RB.211-72-C230, dated November 16, 1999, or Revision 1, dated November 22, 2012.

(4) This AD does not apply to engines listed in paragraphs (c)(1) through (c)(3):

(i) That have installed a front combustion liner (FCL) metering panel delivered from RR after April 23, 2011; or

(ii) That were inspected before the effective date of this AD using RR Alert Non-Modification Service Bulletin (NMSB) No. RB.211-72-AF572, dated October 15, 2007, or Revision 1, dated October 8, 2008, or Revision 2, dated April 2, 2009, or RR Repeater Technical Variance No. 75295, Issue 1, dated April 20, 2007.

(d) Reason

This AD was prompted by the discovery of a cracked and distorted FCL metering panel, made from the wrong material. We are issuing this AD to prevent hot gas burning through the engine casing, which could result in an under-cowl fire and damage to the airplane.

(e) Actions and Compliance

Unless already done, do the following actions.

(1) At the next engine shop visit or within 625 flight cycles, whichever occurs first after the effective date of this AD, perform a one-time inspection of the FCL metering panel to determine if it was made from N75 material, and replace it if made from N75 material, with one made from C263 material.

(2) To inspect RB211-524 series turbofan engines, use Section 3., Accomplishment Instructions, of Alert NMSB No. RB.211-72-AG183, Revision 3, dated

December 6, 2012, except reporting requirement paragraph 2 of Appendices 1 and 2 of that Alert NMSB.

(3) To inspect RB211-535 series turbofan engines, use Section 3., Accomplishment Instructions, of Alert NMSB No. RB.211-72-AG046, Revision 3, dated December 6, 2012, except reporting requirement paragraph 2 of Appendices 1 and 2 of that Alert NMSB.

(f) Definitions

For the purpose of this AD, a shop visit is the induction of an engine into the shop for maintenance or overhaul. The separation of engine flanges solely for the purposes of transporting the engine without subsequent engine maintenance does not constitute an engine shop visit.

(g) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request.

(h) Related Information

(1) For more information about this AD, contact Robert Green, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: robert.green@faa.gov; phone: 781-238-7754; fax: 781-238 7199.

(2) Refer to European Aviation Safety Agency AD 2012-0215R1, dated January 4, 2013, RR Alert NMSB No. RB.211-72-AG183, Revision 3, dated December 6, 2012, and Alert NMSB No. RB.211-72-AG046, Revision 3, dated December 6, 2012, for related information.

(3) For service information identified in this AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, England, DE248BJ; phone: 011-44-1332-242424; fax: 011-44-1332-249936 or e-mail from http://www.rolls-royce.com/contact/civil_team.jsp, or download the publication from <https://www.aeromanager.com>. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on March 29, 2013.

Colleen M. D'Alessandro,
Assistant Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

[FR Doc. 2013-07930 Filed 04/04/2013 at 8:45 am; Publication Date: 04/05/2013]